

ABSTRACT

A thin film transistor comprising at least three terminals consisting of a gate electrode, a source electrode and a drain electrode; an insulating layer and
5 an organic semiconductor layer on a substrate, which controls its electric current flowing between the source and the drain by applying a electric voltage across the gate electrode, wherein the organic semiconductor layer comprises a heterocyclic compound containing a nitrogen atom formed by condensation
10 sites or between a five member ring and a six member ring each having a nitrogen atom at their condensation sites. The transistor became to have a fast response speed (driving speed), and further, achieved a large on/off ratio getting an enhanced performance as a transistor.